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MPS Ref. No.: IBMK30129

**IN THE CLAIMS:**

Please cancel claims 6, and amend the claims as follows:

1. (Currently Amended) A computer implemented method for providing a logical representation of physical fields of an underlying physical database ~~physical data entities~~ to facilitate querying the physical fields, the method comprising:

providing a logical model to logically describe the physical fields of the underlying physical database, the logical model comprising logical fields corresponding to respective physical fields, wherein each logical field is defined by a logical field name, at least one location attribute identifying a location of physical data corresponding to the logical field and a reference to an access method selected from at least two different access method types; wherein each of the different access methods types defines a different manner of exposing the physical data corresponding to the logical field;

providing, for a requesting entity, a query specification defining an interface to the plurality of logical fields, thereby allowing abstract queries to be composed on the basis of the plurality of logical fields; and

providing a runtime component configured to transform an abstract query into an executable query containing at least one combinatorial statement, the abstract query comprising a condition and at least two result fields selected from the logical fields of the logical model, each result field having executable counterparts in the combinatorial statement of the executable query.

2. (Currently Amended) The computer implemented method of claim 1, wherein the combinatorial statement is a UNION statement and wherein the at least two result fields are related by UNION information which causes the runtime component to produce the UNION statement.

3. (Currently Amended) The computer implemented method of claim 1, wherein the abstract query is user-defined.

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4. (Currently Amended) The computer implemented method of claim 1, wherein the executable query is an SQL statement.
5. (Currently Amended) The computer implemented method of claim 1, wherein the executable query is an XQuery statement.
6. (Cancelled)
7. (Currently Amended) The computer implemented method of claim 1, further comprising providing a graphical user interface wherein the at least two result fields are specified in a graphical user interface.
8. (Currently Amended) A computer implemented method for providing a logical representation of physical fields of an underlying physical database physical data entities to facilitate querying the physical fields, the method comprising:
- providing a logical model to logically describe the physical fields of the underlying physical database, the logical model comprising logical fields corresponding to respective physical fields, wherein each logical field is defined by a logical field name, at least one location attribute identifying a location of physical data corresponding to the logical field and a reference to an access method selected from at least two different access method types; wherein each of the different access methods types defines a different manner of exposing the physical data corresponding to the logical field;
- providing, for a requesting entity, a query specification defining an interface to the plurality of logical fields thereby allowing abstract queries to be composed on the basis of the plurality of logical fields;
- receiving, from the requesting entity, an abstract query defined with respect to a logical model comprising logical fields corresponding to respective physical fields, the abstract query comprising a condition and at least two result fields selected from the logical fields of the logical model; and
- transforming the abstract query into an executable query containing at least one combinatorial statement, the abstract query comprising a condition and at least two

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result fields selected from the logical fields of the logical model, each result field having executable counterparts in the combinatorial statement of the executable query.

9. (Currently Amended) The computer implemented method of claim 8, wherein the physical data entities comprise a plurality of tables in a database.

10. (Currently Amended) The computer implemented method of claim 8, further comprising providing a graphical user interface wherein the at least two result fields are specified in a graphical user interface.

11. (Original) A method for allowing query building, comprising:  
providing a graphical user interface allowing user selection and arrangement of logical result fields selected from a logical model which logically defines data, wherein a predetermined relative geometric arrangement between user-selected logical result fields defines a combinatorial relationship between the user-selected logical result fields.

12. (Original) The method of claim 11, wherein the predetermined relative geometric arrangement comprises a vertical arrangement of the user-selected logical result fields.

13. (Original) The method of claim 11, wherein the combinatorial relationship is expressed as a UNION statement in a query containing representations of the user-selected logical result fields.

14. (Original) A method for allowing query building, comprising:  
providing a graphical user interface allowing user selection and arrangement of logical result fields selected from a logical model which logically defines data, wherein a first predetermined relative geometric arrangement between user-selected logical result fields defines a first type of combinatorial relationship between the user-selected logical result fields and wherein a second predetermined relative geometric relationship

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between user-selected logical result fields defines a second type of combinatorial relationship between the user-selected logical result fields.

15. (Original) The method of claim 14, wherein the first predetermined relative geometric arrangement comprises a vertical arrangement of the selected logical result fields and the second predetermined relative geometric arrangement comprises a horizontal arrangement of the selected logical result fields.

16. (Original) The method of claim 14, wherein the first type of combinatorial relationship is a JOIN and the second type of combinatorial relationship is a UNION.

17. (Original) A method for allowing query building, comprising:  
providing a graphical user interface allowing user selection and arrangement of logical result fields selected from a logical model which logically defines data, the graphical user interface comprising a table comprising a plurality of cells, wherein a predetermined relative geometric arrangement between user-selected logical result fields in adjacent cells defines a combinatorial relationship between the user-selected logical result fields, the combinatorial relationship being selected from at least two different type of combinatorial relationships.

18. (Original) The method of claim 17, wherein the predetermined relative geometric arrangement comprises a vertical arrangement of the user-selected logical result fields.

19. (Original) The method of claim 17, wherein the combinatorial relationship is a UNION.

20. (Original) The method of claim 17, wherein the combinatorial relationships are selected from a UNION and a JOIN.

21. (Original) A method for building queries, comprising:

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providing a logical model to logically describe the physical fields, the logical model comprising logical fields corresponding to respective physical fields;

providing a graphical user interface allowing user selection and arrangement of logical result fields selected from the logical model;

receiving user input specifying a selection and a location, in the graphical user interface, of a first logical result field;

receiving user input specifying a selection and a location, in the graphical user interface, of a second logical result field, wherein the first and second logical result fields have a relative geometric relationship and define at least a portion of an abstract query; and

transforming the abstract query into an executable query containing at least one combinatorial statement containing representations of the first and second logical result fields, and being generated as a result of the relative geometric relationship.

22. (Original) The method of claim 21, wherein the combinatorial statement is a UNION.

23. (Original) The method of claim 21, further comprising displaying each of the logical fields of the logical model as selectable logical result fields in the graphical user interface.

24. (Original) A computer readable medium containing a graphical user interface program which, when executed, performs an operation for building abstract queries defined with respect to a logical model comprising a plurality of logical field definitions mapping to physical fields of physical entities of the data, the operation comprising:

receiving user input specifying a selection and a location, in the graphical user interface, of a first logical result field; wherein the graphical user interface allows user selection of logical result fields from the logical model and supports combinatorial relations between user selected logical result fields; and

receiving user input specifying a selection and a location, in the graphical user interface, of a second logical result field, wherein the first and second logical result

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fields define at least a portion of an abstract query, which is transformed into an executable query containing at least one combinatorial statement containing counterparts of the first and second logical result fields.

25. (Original) The method of claim 24, wherein the combinatorial statement is a UNION.

26. (Original) A computer readable medium containing a program which, when executed, performs an operation for building abstract queries defined with respect to a logical model comprising a plurality of logical field definitions mapping to physical fields of physical entities of the data, the operation comprising:

receiving user input specifying a selection and a location, in a graphical user interface, of a first logical result field; wherein the graphical user interface allows user selection and arrangement of logical result fields selected from the logical model;

receiving user input specifying a selection and a location, in the graphical user interface, of a second logical result field, wherein the first and second logical result fields have a relative geometric relationship and define at least a portion of an abstract query; and

transforming the abstract query into an executable query containing at least one combinatorial statement containing counterparts of the first and second logical result fields, and being generated as a result of the relative geometric relationship.

27. (Original) The computer readable medium of claim 26, wherein the combinatorial statement is a UNION.

28. (Original) The computer readable medium of claim 26, wherein the relative geometric relationship is vertical.

29. (Currently Amended) A computer system, comprising memory and at least one processor, and further comprising:

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a logical model comprising a plurality of logical field definitions mapping to physical fields of physical entities of data, whereby the logical model provides a logical view of the data, each of the definitions comprising a logical field name, at least one location attribute identifying a location of physical data corresponding to the logical field name and a reference to an access method selected from at least two different access method types; wherein each of the different access methods types defines a different manner of exposing the physical data corresponding to the logical field name of the respective logical field definition;

a query specification defining an interface to the plurality of logical field definitions thereby allowing abstract queries to be composed on the basis of the plurality of logical field definitions; and

a graphical user interface allowing user selection and arrangement of logical result fields selected from the logical model; wherein the graphical user interface comprises input cells for user-selected logical result fields and wherein a predefined geometric relationship between cells specifies whether user-selected logical result fields in the cells are related by a first combinatorial statement type or a second combinatorial statement type.

30. (Original) The system of claim 29, wherein the first combinatorial statement type is a UNION and the second combinatorial statement type is a JOIN.

31. (Original) The system of claim 29, wherein the predefined geometric relationship is vertical.

32. (Currently Amended) The system of claim 29, wherein user-selected logical result fields in ~~horizontally~~ horizontally adjacent cells are JOINed.

33. (Original) The system of claim 29, further comprising a relational database containing the physical entities of data.